

## STATUS OF THE CLAIMS

[0008] Claims 1-24 are pending in the application. The Office Action mailed July 17, 2007, (hereinafter “Office Action”) rejected Claims 1, 4, 9, 12, 15, 20, 23, and 24 under 35 U.S.C. § 102(b) as being anticipated by Budnik, et al., U.S. Patent No. 6,016,204, (hereinafter Budnik). The Office Action rejected Claims 2, 3, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Budnik in view of Sirowitzki, U.S. Patent No. 6,244,174 (hereinafter “Sirowitzki”).

## AMENDMENTS TO THE CLAIMS

[0009] The claims have been amended to more particularly point out the features of the present invention. The amendments are fully supported by the specification, drawings, and claims.

### REJECTION OF CLAIMS 1, 4, 9, 12, 15, 20, 23, and 24 UNDER 35 U.S.C. §102(b)

[0010] The Office Action rejected Claims 1, 4, 9, 12, 15, 20, 23, and 24 under 35 U.S.C. §102(b) as being anticipated by Budnik. The Applicants respectfully traverse this rejection. “Anticipation under 35 U.S.C. §102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. . . . Whether such art is anticipating is a question of fact.” *Apple Computer, Inc. v. Articulate Systems, Inc.* 234 F.3d 14, 20, 57 USPQ2d 1057, 1061 (Fed. Cir. 2000). It is well settled that under 35 U.S.C. §102 “an invention is anticipated if . . . all the claim limitations [are] shown in a single art prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. The identical invention must be shown in as complete detail as is contained in the patent claim.” *Richardson v. Suzuki Motor Co., Ltd.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). In determining whether a prior art reference anticipates a claim, it is necessary to (1) determine the scope of Applicant’s broadest claim, (2) determine exactly what the single prior art reference discloses, and (3) compare each and every claim limitation against the prior art disclosure. *SSIH Equipment, S.A. v. U.S Int’l*

*Trade Commission et al.*, 218 U.S.P.Q. 678, 688. Only if each limitation is literally disclosed by the prior art reference is the claim anticipated.

[0011] Initially, it may be useful to review the invention described in the Application. In general, the Application describes apparatuses and methods for predicting when maintenance is required for a scanner through monitoring the image quality of the scans. As set forth above, Applicants implement embodiments of their invention by tracking a quality parameter history by utilizing a quality parameter history variable and a quality parameter time variable. Utilizing these variables, Applicants determine a quality parameter trend. Then Applicants extrapolate the trend to determine when the quality parameter trend will cross a quality parameter limit. Applicants can then notify a user of when the maintenance is predicted to be required.

[0012] With regard to Claims 1, 12, 23, and 24, the Office Action states that Budnik discloses: "an apparatus for predicting when maintenance is required for a scanner, the apparatus comprising: a tracking module configured to track a quality parameter history". The Office Action also states that the apparatus of Budnik discloses: "a prediction module configured to predict when maintenance is required based on the quality parameter history". The Office Action cites Col. 9, lines 5-9 and Col. 7, lines 57-67 of Budnik. However, in these cited portions, Budnik does not discuss a parameter history as described in the present application. The Office Action also states that Budnik discloses: "a notification module configured to notify a user when maintenance is predicted to be required based on a quality parameter trend", and cites Col. 7, lines 62-67 of Budnik. In this portion of his disclosure, Budnik does not specifically describe notifying a user based on a quality parameter trend. In fact, at column 9, lines 1-2 indicate that Budnik utilizes a "profile of expected machine performance" such that Budnik need not utilize any history or trend data. Rather, Budnik's description can be taken as describing a reactive "expert" system that attempts to repair itself, notifies a user, or orders parts when the quality deviates from the machine performance profile. Thus, Applicants question whether Budnik could be properly used to reject original claims 1, 12, 23, and 24 under 35 U.S.C. 102(b).

[0013] On the other hand, Applicants have amended each of these independent claims to include subject matter that the Examiner indicated as allowable. In the case of claims 1 and 12,

the essence of claims 5 and 16 has been rolled into the base claim. As such, claims 1 and 12 now require an apparatus or method that tracks a quality parameter history by utilizing a quality parameter history variable and a quality parameter time variable. (These are not disclosed by Budnik.) Utilizing these variables, the apparatus or method determines a quality parameter trend. Then the apparatus or method extrapolates the trend to determine when the quality parameter trend will cross a quality parameter limit. (Budnik does not describe predictions based on determining when a trend will cross a limit.) Then the apparatus or method notifies a user of when the maintenance is predicted to be required. These features are not shown or described by Budnik. Therefore, Claims 1 and 12 are considered to be allowable over Budnik.

[0014] Claims 23 and 24 have been amended to include substantially all of the matter of claims 19 and 8 respectively, which were indicated as allowable by the Examiner. As such, claims 23 and 24 now require a method or apparatus that notifies a user when maintenance is predicted to be required. These claims now recite a method or apparatus in which the notification module sends a notification signal when a quality parameter trend crosses a quality parameter notification limit, where the notification signal comprising an estimated time difference between when the quality parameter trend crosses the quality parameter notification limit and when the quality parameter trend crosses a quality parameter change limit. As can be appreciated, these claims now require two limits, and require an apparatus or method that estimates a difference in time between reaching the first and second of these two limits. This new recitation is in addition to the original recitation requiring that the quality parameter history be tracked, and that a need for maintenance be predicted based on a trend of the quality parameter. Budnik does not disclose use of quality parameters and a trend in this way, and Budnik does not describe first and second limits and estimating a difference in time between reaching two limits. Furthermore, claims 23 and 24 have been amended to limit coverage to scanners. Therefore, claims 23 and 24 are considered to be allowable.

[0015] With regard to claims 4 and 15, among other things, the Office Action states that Budnik discloses "record[ing] a quality parameter time variable when the quality parameter change variable is modified". However, in reading the portion of Budnik cited in the Office

Action, description regarding changing and recording the quality parameter time variable Applicants' representatives could not discover how this claim 4 recitation is met by Budnik.

[0016] Claims 4, 9, 15, and 20 are considered to be patentable as depending from allowable base claims 1 and 12, and for further patentable details therein as may be appreciated by the Examiner.

#### REJECTION OF CLAIMS 2, 3, 13, and 14 UNDER 35 U.S.C. §103(a)

[0017] The Office Action rejected Claims 2, 3, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Budnik in view of Sirowitzki. The Applicants respectfully traverse this rejection. The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. MPEP at § 2142. The prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP at § 2142.

[0018] The Applicants respectfully assert that Budnik and Sirowitzki either singly or in combination fail to teach or disclose each element of the claimed invention as required under 35 U.S.C. § 103(a). In particular, the primary reference, Budnik, does not have the claim limitation that are now found in each of the independent claims.

[0019] The Applicants respectfully assert that Claims 1 and 12 are in condition for allowance as set forth in the arguments against the rejection under 35 U.S.C 102(b) above. Sirowitzki does not supply the claim missing elements. Applicants assert that the arguments in favor of Claim 1 are equally applicable to Claims 2, 3, 13, and 14 since these claims depend from allowable base Claims 1 and 12.

#### ALLOWABLE CLAIMS

[0020] Claims 5-8, and 16-19 were objected to, but indicated as allowable in the Office Action. Since all the matter of these claims was not rolled into the base claims 1 and 12, Applicants have left these claims predominantly as they were originally. The changes made to these claims include minor article changes to accommodate changes in antecedent basis due to amendments to the base claims. Also, claims 5 and 16 have been amended to remove the term

"time" since there are differences other than time that could be used to practice the invention, as discussed above. For example, a difference in the number of images scanned as disclosed in paragraphs [0014] and [0019] of the original specification could be determined instead of the difference in time. Alternatively, differences in other parameters, such as brightness, could alternatively be determined instead. Nevertheless, claims 5-8 and 16-19 are considered to be patentable as depending from allowable base claims 1 and 12, and for the other details therein as may be appreciated by the Examiner.

[0021] The Examiner indicated that claims 10 and 21 are allowable. Claim 10 has been amended to remove extraneous details that are not directed to a scanner. These details are not considered to be necessary for patentability since the invention lies in the scanner and related method details. Therefore, claims 10 and 21 are still considered to be allowable, as indicated in the Office Action.

[0022] Claims 11 and 22 are considered to be patentable as depending from allowable base claims 10 and 21, and for further patentable details therein as may be appreciated in the Office Action.

[0023] Should additional information be required, the Examiner is respectfully asked to notify the Applicants of such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

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